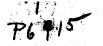
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PLANT IMMIGRAN

No. 136.

AUGUST, 1917.

GENERA REPRESENTED IN THIS NUMBER.

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Plates:

P1. 223. A Chinese Elm, Centuries Old, *Ulmus pumila*. 224. Fruit of the Patashte, a Relative of the Cacao, *Tribroma bicolor*.

EXPLANATORY NOTE.

This multigraphed circular is made up of descriptive notes furnished mainly by Agricultural Explorers and Foreign Correspondents relative to the more important introduced plants which have recently arrived at the Office of Foreign Seed and Plant Introduction of the Bureau of Plant Industry of the Department of Agriculture, together with accounts of the behavior in America of previous introductions. Descriptions appearing here are revised and published later in the INVENTORY OF PLANTS IMPORTED.

Applications for material listed in these pages may be made at any time to this Office. As they are received they are placed on file, and when the material is ready for the use of experimenters sent to those on the list of applicants who can show that they are prepared to care for it as well as to others selected because of their special fitness to experiment with the particular plants imported. not wait for the annual catalogue entitled NEW PLANT INTRODUCTIONS which will be sent you in the autumn and in which will be listed all plants available at that time. Regular requests checked off on the check list sent out with the catalogue are not kept over from year to year. If you are especially interested in some particular plant in the catalogue write and explain in detail your fitness to handle it.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.

David Fairchild,

Agricultural Explorer in Charge.

July 17, 1918.

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Annona cherimola Miller. (Annonaceae.) 45077. Cherimoya. From Jujuy, Argentina. Presented by Mr. S. W. Damon, Orán. Reported to be frost-resistant, having withstood 9 or 10° C. (16 or 18° F.) of frost. Said to be a fine anona, weighing up to two kilos (4 2/5 lbs.).

Berberis trifoliolata Moricand. (Berberidaceae.) 45096. Barberry plants grown at the Chico Field Station from seeds originally received from Dr. David Griffiths, collected in Texas. Evergreen shrub, 2 to 5 feet in height, often forming large thickets. The compound leaves have 3 leaflets, each 3 to 5-lobed, with spiny margins. The red, aromatic berries, about as large as peas, are very acid and are much used for tarts, jellies, etc. (Adapted from Small, Flora of the Southern United States.)

Cocos eriospatha Martius. (Phoenicaceae.) 45045. Palm fruits from Gotha, Florida. Presented by Mr. H. Nehrling. "A most beautiful, glaucous, pinnate-leaved palm with slightly violet-colored leaf stems. received under the name of Cocos blumenavia from in Brazil. in 1892. This palm bore its Blumenau. first bunches of fruit four years ago. The large, cream-colored flower cluster is enclosed in a spathe densely covered with a felty, brown, soft wool. The fruits have no odor. They are the size of a very large cherry or small plum, are yellow, and are covered with deep brown spots. The fruit is the most delicious of all the hardy Cocos, and reminds one of the flavor of a very good sweet plum. The palm grows on high dry pine-land and is hardier than the orange." (Nehrling.)

Dovyalis tristis (Sond.) Warburg. (Flacourtiaceae.) 45048. Seeds from Pretoria, Transvaal, South Africa. Presented by Mr. I. B. Pole Evans, Chief, Division of Botany, Department of Agriculture, Union of South Africa. "A tree which occurs on the kopjes (low hills) around Pretoria and which bears an abundance of small fruits. These fruits make a delicious jelly." (Evans.) Usually an armed shrub or small tree 10 to 15 feet high, with leathery, obovate, glabrous leaves, shiny above. The inconspicuous flowers appear in November, followed in January by the roundish, yellow, pulpy fruits which are about $\frac{1}{2}$ inch long. The fruits are highly flavored, and are eaten raw or made into

jelly, although the tree is never cultivated. (Adapted from T. R. Sim, Forests and Forest Flora of Cape Colony, p. 130.)

Eugenia uniflora L. (Myrtaceae.) 45068. Seeds from Puerto Bertoni, Paraguay. Presented by Dr. Moises S. Bertoni. "(June 1917.) Anangapirih. A fruit tree 3 to 8 meters high. It prefers to grow in wooded lowlands, drained by arroyo basins, or on rocky slopes; in such situations the little trees become tall, with few branches and short twigs. In open places and in good soil it becomes less tall and more branched. The fruit is quite similar in appearance and taste to the patanga of Brazil, but the tree is more resistant to cold, for it grows in localities where the minimum temperature reaches 5° or 6° C. (9° or 11° F.)." (Bertoni.)

Gnetum gnemon L. (Gnetaceae.) 45152. Seeds from Buitenzorg, Java. Presented by the Director, Botanic Garden. An evergreen shrub or small tree extending from the Khasia Hills of India southwards to Singapore and Java. The sessile orange-colored fruits are about 1 inch long, and are eaten by the natives. The leaves are eaten boiled like spinach, and the bark is said to furnish a strong bast fiber. (Adapted from Koorders and Valeton, Boomsoorten op Java.)

Melicocca bijuga L. (Sapindaceae.) 45047. Mamon seeds from Caracas, Venezuela. Presented by Mr. Henry Pittier, Agricultural Experiment Station. "A small or middle-sized tree with thick foliage. The round or oval fruits are about the size of a pigeon's egg, and are borne in racemes hanging from the ends of the branchlets. Each fruit has a single seed, with a layer of sweet, jelly-like pulp between the seed and the green pericarp. The roasted seeds are said to be of a fine flavor. The tree grows from sea-level to 1200 meters (3900 feet), and should thrive in Florida and southern California." (Pittier.)

Persea americana Miller. (Lauraceae.) 45078. Avocado budsticks from Guatemala. Collected by Mr. Wilson Popenoe, Agricultural Explorer for this Department. "No. 171. Avocado No. 31. Nimah from Mazatenango, Department of Suchitepequez. Elevation 1148 feet. A variety obtained especially for trial in Florida, since it comes from the hot lowlands and may be better adapted to the conditions which obtain in extreme

south Florida than are those from the Guatemalan highlands. The fruit is pear-shaped, sometimes curved, with a well defined neck. It is of medium size, weighing about 11 or 12 ounces, deep green in color, with a rough surface and a thick, tough skin. The flesh is deep yellow in color, free from fiber and of rich flavor. The seed is medium-sized. On the whole the variety is satisfactory in point of flavor and quality, yet it is not good enough to be included in my Guatemalan collection on these characteristics alone." (Popenoe.)

Persea americana Miller. (Lauraceae.) 45083. Avocado seeds from Bogota, Colombia. Presented by Sr. Alvaro Uribe. "One of the best Colombian avocados. It grows at elevations of from 3000 to 4500 feet, at temperatures ranging from 20° to 26° C., (36° to 47° F.) and ripens in April. The fruits are well-shaped, and excellent in taste. The trees are very robust, and require only sufficient moisture in the air." (Uribe.)

Persea sp. (Lauraceae.) 45081. Seeds from Guatemala. Obtained by Mr. Wilson Popenoe, Agricultural Explorer for this Department. "(No. 170a. July 23, 1917.) Coyo or shucte. Seeds of a very large variety of coyo from the town of El Rancho, in eastern Guatemala. The fruits from which these seeds were taken weighed from one to two pounds each. They were bright green in color, with very thick skins, and milky white to brownish white flesh of very rich, nutty flavor. They contain a little fiber, but not as much as is commonly found in the coyo. These seeds should be planted in California and Florida and fruited as seedlings." (Popenoe.)

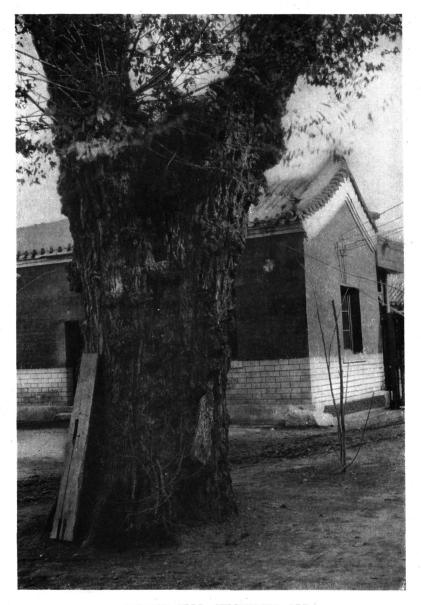
Prunus mume Sieb. & Zucc. (Amygdalaceae.) 45063. Japanese apricot plants grown at the Plant Introduction Field Station, Chico, California, from scions presented by Mr. David Fairchild from his place "In the Woods". "Var. Tsukasa-shibori. Semi-double very light pinkflowered variety blooming in Maryland the middle of April. Though spoken of as the 'Flowering Plum of Japan' the mume of Japan is really an apricot. The delicate fragrance of the flowers, the extreme picturesque habit of its growth and its extreme earliness (April in Maryland) make it worthy of extensive trial. Its fruits rarely set in America. They are sour but when pickled form a delicious though very sour pickle." (Fairchild.)

Prunus mume Sieb. & Succ. (Amygdalaceae.) 45064. Japanese apricot plants grown at the Plant Introduction Field Station, Chico, California, from scions presented by Mr. David Fairchild from his place "In the Woods". "Var. Oteno. The 'Japanese Flowering Plum' is really an apricot. The picturesque form of the tree. its extremely fragrant blossoms and their beauty combined with the fact that it is one of the earliest of all trees to bloom, often so early that snow falls on the blooms, have made it the favorite of Japanese It is hardy in the Atlantic coast states and even though its blossoms often get killed by frost it is worthy of extensive trial. Its fruits are sour and remind one of the American wild plum in flavor. They form, when pickled, an important part of the Japanese army ration." (Fairchild.)

Prunus serrulata Lindley. (Amygdalaceae.) 45049. Japanese flowering cherry plants grown at the Plant Introduction Field Station, Rockville, Maryland, from scions presented by Mr. David Fairchild from his place "In the Woods". "Var. Naden (?). One of the loveliest of the very double, delicate pink varieties. Late flowering, about May 1. Flowers hang in clusters of 2 to 5 on long stems; buds at first deep pink and truncate as though their tips had been cut off. Expand slowly and form wonderful double very large ($1\frac{1}{2}$ inches) flat flowers with petals a delicate pink, deeper colored at the margins. Flowers in rifts. Tree extremely Japanesque. Fairly vigorous. One of the loveliest for small lawn planting." (Fairchild.)

Prunus serrulata Lindley. (Amygdalaceae.) 45050. Japanese flowering cherry plants grown at the Plant Introduction Field Station, Rockville, Maryland, from scions presented by Mr. David Fairchild from his place "In the Woods". "Var. Hosokawa. A very beautiful double-flowered form with truncate, deep pink buds and flat, light pink flowers in clusters of 2 to 3 on rather long pendent flower-stalks. Flowers very profusely. Resembles closely the Naden (S. P. I. 45049) but tree appears to be less vigorous. Late bloomer (May 1 in Maryland)." (Fairchild.)

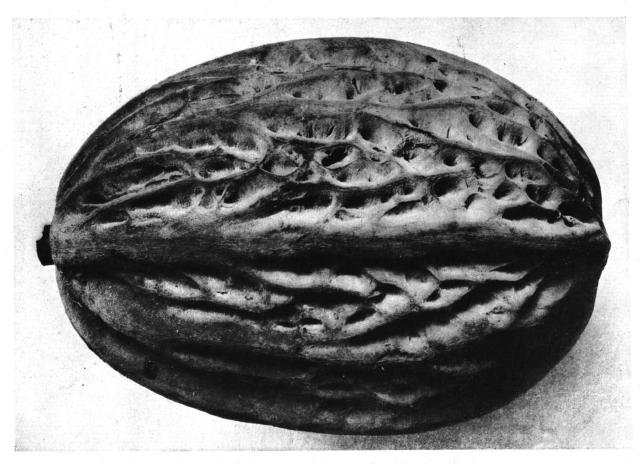
Prunus serrulata Lindley. (Amygdalaceae.) 45051. Japanese flowering cherry plants grown at the Plant Introduction Field Station, Rockville, Maryland, from scions presented by Mr. David Fairchild from his place "In



A CHINESE ELM, CENTURIES OLD.

(ULMUS PUMILA L.)

The unusual adaptation to widely varying conditions of growth exhibited by this introduced species, which is now growing in hundreds of places in America—from Canada to the Gulf States—makes this illustration of a tree, which is said to be 300 years old and is still growing in the Central Park in Peking, of unusual interest to American tree lovers. (Photographed by Frank N. Meyer, November 9, 1916, at Peking, China; P12375FS.)



FRUIT OF THE PATASHTE, A RELATIVE OF THE CACAO.

(TRIBROMA BICOLOR (HUMB. AND BONP.) COOK.)

According to Mr. O. F. Cook, this gourdlike elliptical pod contains large fleshy seeds which are used in the same manner as cacao among the Indians of Guatemala. Though not considered the equal of cacao in quality, the patashte is bought readily by the Indians and would undoubtedly find a place in commerce if it could be produced cheaply. The patashte tree grows much more rapidly than cacao, develops into a much larger tree, and has been used experimentally as a shade tree for cacao. Its rapid growth and adaptation to high altitudes make it promising for trial as a stock for the cacao. (Photographed by Wilson Popenoe, at Escuintla, Guatemala, September 22, 1916; P16793FS.) Slightly under natural size.

the Woods". "Var. Ojochin. Flowers very slightly double, large (l½ inches), almost pure white on short upright stems; slightly fragrant; late flowering (May in Maryland). Though the flowers are not borne in masses and the tree is not therefore as showy as that of other varieties the unusual size and beauty of the individual flowers, resembling single roses, make it attractive for door yards. Foliage bronze and (golden in autumn. Tree not very vigorous." (Fairchild.)

Prunus serrulata Lindley. (Amygdalaceae.) 45052. Japanese flowering cherry plants grown at the Plant Introduction Field Station, Rockville, Maryland, from scions presented by Mr. David Fairchild from his place "In the Woods". "Var. Daizen. Single white medium-sized flowers (1 inch) with distinct cherry fragrance. Midseason (April 20 to May 1 in Maryland). The flowers are scattered most attractively through the tree but the green leaves come out early mixing with them and preventing the tree from being very striking. Not one of the showy varieties but an unusually vigorous grower and produces many seeds. Foliage in autumn golden yellow." (Fairchild.)

Prunus serrulata Lindley. (Amygdalaceae.) 45054. Japanese flowering cherry plants grown at the Plant Introduction Field Station, Rockville, Maryland, from scions presented by Mr. David Fairchild from his place "In the Woods". "Var. Amenogawa. Translated meaning Milky way. One of the most striking varieties because of its upright or fastigiate growth. Peculiarly suited for architectural uses. Medium-sized white to very light pink flowers on short stems borne in great masses concealing the branches. Seen from below suggests characteristic name. Tree not very vigorous." (Fairchild.)

Prunus serrulata Lindley. (Amygdalaceae.) 45055. Japanese flowering cherry plants grown at the Plant Introduction Field Station, Rockville, Maryland, from scions presented by Mr. David Fairchild from his place "In the Woods". "Var. Ussussumi. Very late variety, May 1, with hanging, large, very double flowers borne clusters. Petals are tinged with light brown giving them a strange not unattractive appearance. The young borne at same time as the flowers are dark In autumn bronze. the foliage turns a claret red. Tree a fairly rapid grower but the trunk inclined to be tender. Flowers very profusely." (Fairchild.)

Prunus serrulata Lindley. (Amygdalaceae.) 45056. Japanese flowering cherry plants grown at the Plant Introduction Field Station, Rockville, Maryland, from scions presented by Mr. David Fairchild from his place "In the Woods". "Var. Murasaki. Deep pink semi-double flowers (1 inch) on short upright stems; very free flowering. While perhaps not quite so delicate as some of the very double, light pink varieties this makes a striking show from a distance and for park use can be highly recommended. Tree low heading, vigorous, flowering in mid-season, (April 20 to May 1 in Maryland). Foliage when young an orange color, in autumn turns a golden yellow." (Fairchild.)

Prunus serrulata Lindley. (Amygdalaceae.) 45057. Japanese flowering cherry plants grown at the Plant Introduction Field Station, Rockville, Maryland, from scions presented by Mr. David Fairchild from his place "In the Woods". "Var. Choshu. Very large, deep pink, double flowers ($l\frac{1}{2}$ inches) borne on long pendant stems in clusters of 2 to 5. Flower buds very deep pink. Late flowering (May 1 in Maryland). Young foliage beautiful bronze; in autumn gold and crimson. Tree not very vigorous nor free-flowering." (Fairchild.)

Prunus serrulata Lindley. (Amygdalaceae.) 45058. Japanese flowering cherry plants grown at the Plant Introduction Field Station, Rockville, Maryland, from scions presented by Mr. David Fairchild from his place "In the Woods". "Undetermined variety. Single white flowers borne very profusely in short upright clusters medium size (1 inch across), not fragrant. Mid-season (April 10 to 20). Tree a vigorous grower; very Japanesque. Trunk not easily diseased. On fairly fertile soil forms a tree 20 feet tall in 10 years. (Named, evidently incorrectly, Jo Beni)." (Fairchild.)

Prunus serrulata Lindley. (Amygdalaceae.) 45059. Japanese flowering cherry plants grown at the Plant Introduction Field Station, Rockville, Maryland, from scions presented by Mr. David Fairchild from his place "In the Woods". "Var. Asagi. A rare variety with pale green flowers which have, when they first open, a strange but very attractive appearance; later the centers of the flowers turn red and they are then less attractive. Not showy at a distance, but delicately beautiful for use in house decoration." (Fairchild.)

Prunus serrulata Lindley. (Amygdalaceae.) 45060. Japanese flowering cherry plants grown at the Plant Introduction Field Station, Rockville, Maryland, from scions presented by Mr. David Fairchild from his place "In the Woods". "Var. Wasemiyako. Large semi-double almost pure white flowers, upright on short stems, very attractively arranged on the branches. Mid-season; (flowering April 25 in Maryland). Tree only fairly vigorous. Suitable for lawn planting and showy from a distance." (Fairchild.)

Prunus serrulata Lindley. (Amygdalaceae.) 45061. Japanese flowering cherry plants grown at the Plant Introduction Field Station, Rockville, Maryland, from scions presented by Mr. David Fairchild from his place "In the Woods". "Var. Miyakobeni. Mid-season variety (April 10 to 20 in Maryland), with semi-double flowers (14 inches across) borne on short upright stems in clusters of 2 or 3. Buds pointed, quite pink; flowers pale pink when young, turning reddish with age, slightly fragrant. The tree is a very profuse bloomer and vigorous grower, attaining 20 feet in 10 years on Maryland mica schist soil." (Fairchild.)

Prunus serrulata Lindley. (Amygdalaceae.) 45062. Japanese flowering cherry plants grown at the Plant Introduction Field Station, Rockville, Maryland, from scions presented by Mr. David Fairchild from his place "In the Woods". "Var. Toranowo. Large ($l\frac{1}{2}$ inches) extremely double flowers, deep pink when in bud becoming delicate light pink in full bloom, hanging on long stems in clusters of 2 to 5. Buds flat as though tips were cut off. Not so free-flowering as Naden (S. P. I. No. 45049) but with deeper pink flowers. Prominent green pistils. Tree fairly vigorous." (Fairchild.)

Prunus sieboldii (Carr.) Wittmack. (Amygdalaceae.) 45053. Japanese flowering cherry plants grown at the Plant Introduction Field Station, Rockville, Maryland, from scions presented by Mr. David Fairchild from his place "In the Woods". "Var. Mikuruma gayeshi. Early flowering (April 10 to 20 in Maryland), quite light pink, semidouble, medium-large flowers on long upright stems. Very profuse bloomer. Tree vigorous and because of earliness of flowering a very desirable variety though individual flowers are perhaps not so lovely as the very double late-blooming sorts." (Fairchild.)

Purus ussuriensis Maximowicz. (Malaceae.) 45046. Pear. From Charles City, Iowa. Presented by Mr. Charles G. Patten. The origin of these cuttings is given in the following account: "In the reports of the Iowa Horticultural Society for 1906 and 1912. Mr. Charles G. Patten called attention to a Chinese Sand Pear which he has used in some of his breeding work. He states that in 1880 Mr. O. A. Bardhall, of Grundy Center. Iowa, purchased a tree of the Chinese Sand Pear from John S. Collins & Sons, of New Jersey, which they represented would bear fruit nearly as large as the Flemish Beauty. When it came into bearing the fruit proved small, hard and worthless. Mr. Patten propagated a tree from this because it had proved its great hardiness during the severe Iowa winter of 1883-84. Mr. Patten states that his tree at Charles City, Iowa, has never been injured in the least by cold and has never blighted since it was planted in 1885. Since Pyrus ussuriensis has proved so remarkably resistant to blight in our work, and as it is the hardiest species of pear known, I thought that possibly Mr. Patten's tree belonged to this species. In reply to a letter Mr. Patten kindly sent me leaves of his tree which I received on November 10 of this year. As the tree had not borne this year, no fruit was sent, but Mr. Patten kindly furnished a description of the fruit and stated that the tree probably belonged to Pyrus sinensis. An examination of the leaves, however, shows conclusively that this tree belongs to Pyrus ussuriensis. The tree in Iowa is the oldest one of this species in America so far as I have been able to learn. Undoubtedly there are other trees in America just as old or older than the Iowa tree. It is quite probable that Collins & Sons sent out trees of this species other than the one sent to Iowa. I hope that some of these can be located and the writer would be pleased to receive specimen leaves and fruits of any tree which promises to belong to this species." (Reimer, Blight Resistance in Pear Trees and Stocks.)

Trichilia catigua A. Jussieu. (Meliaceae.) 45069. Katigua seeds from Puerto Bertoni, Paraguay. Present ed by Dr. Moises S. Bertoni. "(June, 1917.) Katigua. A small ornamental tree, found throughout the forests of Paraguay. The bark, according to our analyses, contains 20.5 per cent crude tannin, and a large proportion of coloring matter for dyeing. The leather thus tanned is of a red color which is much esteemed." (Bertoni.)

Triticum aestivum L. (Poaceae.) 45145. Wheat seeds from Sydney, Australia. Presented by Mr. George Valder, Under Secretary and Director, Department of Agriculture. "Florence. It was noticed that during the 1916-1917 season, when a great deal of rust was experienced all over this State, Florence proved more rust-resistant than any of the other varieties sent." (Valder.) A very early wheat used for both grain and hay in New South Wales.

Notes from Correspondents Abroad.

Extract from letter dated April 30, 1917, from Mr. H. R. Wright, Avondale, Auckland, New Zealand:
"Amongst the apples I forwarded last season is one called Willie Sharp. This apple is a first-class variety for a stock, as it roots very freely. The method of raising them: first, root graft some cuttings; the following season, that is, when they are one year old, cut down to the ground and they will shoot up bushy, and as soon as the shoots get a few inches high start to earth up and they will then root out of the sides. The following winter, pull the moulding down and cut off just below the collar of fibrous roots. These you plant out in nursery rows to grow into trees, or bud other varieties on to them.

This is what we call the stool system, and is fast becoming the recognized method of raising aphisresisting stocks. Once you get some plants on their own roots you can select some of the strongest roots, cut into pieces about $2\frac{1}{2}$ inches long, then nick out a line about the same depth with a spade and plant about one inch apart, just covering the top of the root and no more. The following season lift and plant out for stools.

When planting out stools, plant about one foot apart, with about four feet between the rows. This will give you plenty of room to use a celery moulder to earth up. It must be borne in mind with the stool system through continually cutting them back to the ground they increase in the number of plants you take off each year. Only aphis-resistant stocks are used both in Australia and New Zealand."

United States Department of Agriculture.

Bureau of Plant Industry.

Office of Foreign Seed and Plant Introduction.

Washington, D. C.

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